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The CASE of the Artful Dodgers • Restructuring IBM

Datacomm Usage Survey • Betting on RISC & Unix

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5th Annual Datacomm Usage Survey

Obstructed Rights of Way

Too many vendors, too poor service, too few standards force users to wend their ways carefully in building data highways.

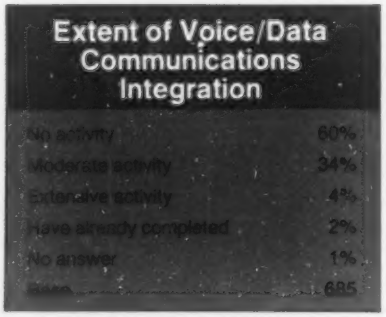
By Wayne L. Rhodes Jr., Editor

The lead times involved in building a large-scale communications infrastructure are long; 18 months is a blink of the eye in telecommunications, according to Peter G.W. Keen, author of *Competing in Time*. Keen says the companies that have already succeeded in creating radical changes in their marketplace through communications typically took five to seven years to build the new electronic delivery base. He declares it is hard to catch up when a rival changes the terms of competition in that way.

The 900 respondents to INFOSYSTEMS' fifth annual survey of data communications usage report that several roadblocks obstruct their implementation of a sophisticated "electronic delivery base." Just as in previous years, respondents bemoan the lack of standards among products, preventing problem-free interfaces. They decry the incessant shifting of blame among suppliers, the almost rote, "It's not my fault, it's theirs." But most of all, respondents seem frustrated by the potential they see and the lack of expertise available to exploit it.

Keen, executive director of the International Center for Information Technologies (Washington, DC), advises firms to move fast to avoid being pre-empted competitively. "Others, who understand the implications of what such organizations as Citibank, American Hospital Supply, Merrill Lynch, Dun & Bradstreet and others began in the late 1970s, will also want to move fast, before the message becomes obvious to everyone else," he says.

Obvious message. The message is obvious. Electronic, computer-based communications has been a fact of life for many years. The only difference has been the availability of mechanisms to extend such communications beyond the confines of one's own establishment, a natural evolution. Keen declares that electronic delivery has become the norm in industry after industry; he says firms have to have the "highway system" in place before they can carry the traffic.



The problem for most users is not one of understanding the necessity, nearly so much as comprehending the means. During a period ripe with potential to expand communications, respondents to INFOSYSTEMS' survey report slowing down plans to add new systems. Interestingly, the significant drop comes in the areas of metropolitan and long-distance systems. This may indicate more assurance in developing internal communications systems, but less confidence in extending beyond their own domain. Once you go outside, a confusing array of services and suppliers initially appears to obstruct rather than smooth the way for a data highway.

Matters are far from static, however. Two years ago, fewer than 30 percent of the respondents reported having a local area network installed. This year nearly 43 percent reported having at least one. Two years ago 56 percent reported having a micro-to-mainframe link established; this year the number climbed to 69.5 percent. Another area showing considerable activity is communications converters, such as those for protocols. This product area has held relatively constant through the years of the survey, with around 42 percent of respondents reporting such products installed. This year more than 50 percent report installation of converter products. Companies have apparently increased efforts to get equipment with different communicating standards to talk to one another.

Network management steady. With all the talk about networks and networking, the number of network management systems installed remained quite constant at just over 20 percent. Respondents do report, however, a five percent increase in the number of multiplexers installed. Companies are trying to push more data down the same highway. This may mean that usage is up.

There has been no perceptible change in the installation of microcomputers during the past three years. This moves the small computers into the more mature product areas along with printers and modems. None of these technologies, however, can be considered particularly static because new capabilities are coming on to the market constantly. For example, ever faster modems with built-in security or protocol conversion have carried a once relatively simple box to new heights.

Local area networks (LANs) supplanted micro-to-mainframe links last year at the top of the list of products and services to be added. It remains at the top this year with nearly 41 percent of the respondents planning to implement LANs. Microcomputers, terminals and printers also had significant increases in the plan-to-add category. This could mean that computing capacity will be distributed around the LANs as they are installed. All three of those product areas were relatively stable in the past two surveys.

Keen says that in the late 1970s it generally made more sense to follow than to lead. The costs and problems involved in introducing new systems were too often higher than the likely payoffs from pioneering in new business territory. "The risks now are in the other direction," he declares. "At the very least firms need to ask what is the communications base they need for defensive necessity, if not for competitive opportunity."

Assessment under way. That

kind of assessment is certainly under way, although the survey respondents appear to be in no rush. As stated previously, most expansion activity is on the local premises. Thirty-eight percent of respondents plan moderate expansion. A total of 56 percent of respondents report change that ranges from moderate to replacement of the system. By contrast, 77 percent of the respondents plan no changes in their metropolitan systems and 63 percent plan no activity in their long distance network.

This inactivity may stem from the paralysis of analysis. As Keen points out, there are many gaps in standards, many competing ones, and too much unproven equipment. Many vendors have announced products that may or may not be delivered or that will take years before they are stable. "Complex systems are complex to design, implement and operate," he states. "They often do not quite work. New ones may work but horrendously inefficiently. The field of computers and communications is full of discrete euphemisms. 'Inefficient' really means 'so expensive that we can't afford it' or 'so slow it can't provide acceptable service and response times.' 'Incompatible' means 'We can't use this with this even though common sense says we should be able to.' The best known euphemism is '95 percent debugged.' That is a polite evasion for 'It doesn't work at all.' "

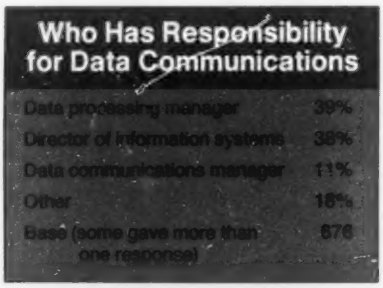
On this point, Keen and INFOSYSTEMS' respondents agree completely. Major problems fall into three areas: building on the existing base; dealing with vendors; and incompatibilities of products. One respondent bemoans, "Our major problem is executing multivendor communications such as IBM to Digital and integrating that with existing equipment." Another complains about costs associated with current budget constraints, changing technology and a lack of in-house knowledge about emerging technologies.

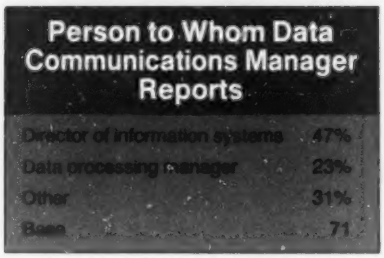
The most strident complaints, however, are reserved for the problem of determining among vendors of proprietary hardware as to whose is at fault. Support, or the lack thereof, compounds the situation. "Vendor incompatibility, a lousy local phone company and cheap modems," are complaints from one respondent. "Getting technical assistance from our vendor and the lack of documentation," mentions another. One particularly frustrated user contends, "Our supplier is not knowledgeable about modern communications."

Lengthy service delays. Other frequent comments address inadequate training, both for internal staff and for vendor personnel. The length of time required to install equipment is considered inordinate by some users. Still others complain about the lengthy delays in getting equipment serviced.

The most telling problem, however, is how to marry the old to the new. "We've reached our limit on expandability," says one respondent. "We have glitchy software, hardware and phone lines." Another comments on a forbidding obstacle: how to cable an existing building.

Companies are not sitting still, though, nearly as much as they are moving cautiously. Where once there was a surge in establishing data communications manager positions, that has held steady: Only about 11 percent of the companies report that position in existence. Instead, the function seems to reside within the purview of information systems (IS). Forty percent of the companies report the data processing (DP) manager is responsible for data communications. (In this era of inflated titles such as MIS Manager or Chief Information Officer, the good old standby, DP manager is still the dominant functional title in organizations.) About 38 percent of the companies say the director of information systems is responsible for datacomm.


Who Has Responsibility for Data Communications
Data processing manager 39%
Director of information systems 38%
Data communications manager 11%
Other 18%
Base (some gave more than one response) 676


Person to Whom Data Communications Manager Reports
Director of information systems 47%
Data processing manager 23%
Other 31%
Base 71

Definite opinion. Those few companies that have a datacomm manager show that person reporting to the IS director 47 percent of the time, and to the DP manager 23 percent. This shows definite opinion that although communications is important enough to the organization to have a designated manager, it is not a stand-alone function, separate from computer operations; there is no data communications without a computer, in fact. About a third report to another function whose title is usually indicative of the nature of the organization. Often these are military, governmental, educational or engineering titles.

Many industry surveys have reported on a trend to merge the voice and data communications functions. While this makes sense in terms of resources and avoiding duplication of effort, there appears to be little haste to merge the two in any way more than name. Sixty percent of the survey respondents report no activity in integrating data and voice communications. Over a third of the respondents say they have moderate activity in this direction. That is a big jump from last year, when only a quarter of the companies reported doing so. Consistently throughout the years, fewer than two percent of the companies report they have completed merging voice and data communications; also consistently, five percent or less report any extensive activity to do so.

Keen asserts that it is impossible to cost-justify business innovation. Costs are an essential concern, he concedes, but they have to be viewed in the context of the economics of doing business over the middle to long term. He says they should not be viewed in terms of direct cost savings and accounting mechanisms for allocating expenditures to user budgets. Unfortunately, such far-sightedness may be more fantasy than fact in today's business climate.

Judging from the 900 responses to the survey, organizations are moving steadily forward in expanding their data highways. They are not, however, rushing down those roadways. They sense there may be some dead ends beyond those roadblocks.

"Using the rough rule of thumb that it takes 18 months to implement any significant project involving telecommunications, three to five years to imitate someone else's business innovation that relies on communications, and five to seven to build the communications, processing and data infrastructure from scratch," Keen says, "this means it may soon be too late to affect 1990."

Perhaps, but indications are that most users are nearsightedly working to build something that will last beyond 1990. And they clearly won't be alone when they arrive at the end of their own data highways. The many may not be rushing down the road, but neither are they sitting by the way. (IS)